Minutes, 1/14/04 Tevatron BPM Upgrade Meeting
Stephen Wolbers

This set of minutes, and all future minutes, are or will be deposited in the Beams Document Database as document number 792.

The agenda as announced consisted of:

1. Report from Steve and Bob.
2. Reports from L2 managers.
3. AOB.

1. Report from Bob and Steve.

- Bob and Steve have appointed Jim Steimel to be Technical Coordinator for the Tevatron BPM Upgrade Project. As the name implies, Jim will be responsible for pulling together many of the far-flung activities in the project. He will bring his knowledge of the Tevatron and Tevatron operations to the project, as well as his enthusiasm and technical expertise. We welcome him to his new role.

- Bob showed data and analysis of data taken during the store on Sunday. This data was taken with the Recycler BPM modified to look at 53 MHz signals. Bob took 5 minute groups of proton position data and measured a standard deviation for each. The standard deviations range from 7.6 to 9.7 microns, in the 7 periods shown at the meeting. (A more complete writeup of these results can be found in the Beams Doc DB #977.)

- A front-end software meeting will be held Thursday morning, January 15 at 8:30 in the Penthouse (later changed to the Loft).

- The Temple Review of the Run 2 upgrade will be held January 20-22, 2004. A draft schedule was shown. Vladimir Shiltsev will be giving a talk about the Tevatron projects and will mention Tev BPMs there. Jim Steimel is speaking in

the Tevatron Instrumentation breakout session on Wednesday morning. Please attend if you can. The closeout is scheduled (currently) for Thursday morning at 10:00-11:00.

- Steve showed the major milestones for the project with a particular emphasis on the milestones coming up in February. There are 6 of them, though the 6th is satisfied automatically if 3 of the others are satisfied. The 5 milestones include placing the requisition for the Echotek boards (2/13/04), placing the requisition for the crates (2/13/04), FE S/W specification (2/6/04), online S/W specification (2/23/04), offline S/W specification (2/23/04).

- Steve also showed the latest cost estimate for the project (not including salary) and it comes to $1.67 million or $1.73 million, depending on some hardware options which are not yet decided. This cost estimate includes the Echotek cards, the VME crates, slot 0 controllers, analog filters, timing and calibration hardware, software licenses. Eventually it should include all cables, connectors, etc. that will be required. There is a 20% contingency assigned to this estimate. There was a question about future C0 BPMs and whether this project is meant to instrument them. For now the answer is no.

- The final report of the Dec 16 review was received on Monday and is linked on the TeV BPM web pages and the Run 2 project web pages.
http://wwwserver2.fnal.gov/tevbpm/reviews/tech_choice/

We went through the 4 recommendations of the review committee. It is fair to say that we are working hard to respond to the 4 recommendations.

- The requisition for the Echotek cards is written and starting to move through the system.

2. Reports from L2 Managers

Jim Steimel:

- Jim discussed calibration and diagnostics and showed two slides to define them. The content of those slides follows:

Slide 1: Diagnostics & Calibration

Calibration – Process used to derive parameters used to convert the sampled raw signal from pickup into real position.

Diagnostics – Routines/hardware used to verify proper system operation and stability.

Slide 2: Purpose of Diagnostics

Determine if a particular component (hardware/software) is malfunctioning and point to the particular problem.

Verify that electrical conditions are stable between different calibration runs.

- This led to a discussion of calibration and diagnostics, day-to-day drifts, finding malfunctioning equipment, absolute calibration, etc. It is clear that much more work will have to be done to completely specify these function.

Vince Pavlicek:

- Vince reported that the fiber optic link/network link needed for the teststand connection in Feynman to the Accelerator Division controls and ACNET is moving along well.

Rob Kutschke:

- Rob has a copy of the scope data taken recently and will begin to analyze it. He is also starting to look at the Damper Board data.

Brian Hendricks:

- Brian is starting to think about the online software specification.

- The data structures document may have to be modified because of some new information people have thought about, such as particle type and helix information. A new version of the document should be coming out relatively soon.

Margaret Votava:

- Starting to work on the front end specifications document.

3. AOB.

- The near-term schedule has:

Thursday, January 15, 1:30 -- Meeting in the Cooler
Monday, January 19 -- No meeting, Holiday
Tuesday, Wednesday, Thursday -- Temple Review
Thursday, January 22, 1:30 -- Meeting in Penthouse*
Monday, January 26, 11:00 -- Meeting in Penthouse*

* If we can reserve the room